

DR. MELINDA VARNEY

Dr. Melinda Varney is currently an Assistant Professor in the Department of Pharmaceutical Science and Research at Marshall University School of Pharmacy. Following her 2004 WV-INBRE internship in the laboratory of Dr. Hongwei Yu, she completed her B.S. in Biology at West Liberty University in 2005. Dr. Varney then earned a Ph.D. in Biomedical Sciences from Marshall University School of Medicine in 2010. Her dissertation work in the laboratory of Dr. Vincent Sollars involved elucidating the impact of genetic and environmental influences on blood cell development. This work earned her a title of West Virginia Graduate Researcher of the Year (2010).



Given her interests in the pathogenesis of blood and bone marrow cancers, Dr. Varney then pursued postdoctoral training in the laboratory of Dr. Daniel Starczynowski at Cincinnati Children's Hospital Medical Center. There, she studied how excessive innate immune signaling in hematopoietic stem and progenitor cells contributes to myelodysplastic syndromes and acute myeloid leukemia, which are malignancies of the blood and bone marrow. Her research in Dr. Starczynowski's laboratory is published in *Journal of Experimental Medicine*, *Leukemia*, *Blood*, *Haematologica*, and *Cell Reports*. She also authored two reviews in this field. These are published in *Current Pharmaceutical Design* and *Experimental Hematology*. During her postdoctoral training, Dr. Varney taught at the University of Cincinnati and Cincinnati State Community and Technical College.

In 2016, Dr. Varney was recruited as junior faculty to the department of Microbiology, Immunology, and Cell Biology at West Virginia University. While working in Dr. Heath Damron's laboratory, she gained experience in vaccine development research. Promoted from Research Instructor to Research Assistant Professor in 2017, Dr. Varney's work integrated microbiology, immunology, hematology, and stem cell biology. Her work from these experiences was published in *Infection Immunity*, *Frontiers in Immunology*, *NPJ Vaccines*, and *Vaccines*. Dr. Varney additionally worked within the laboratory of Dr. John Barnett, where she contributed to arthritis therapeutics research as well as research regarding cadmium exposure impact on cells of the immune system. Dr. Varney also taught courses in undergraduate, graduate, and professional health sciences programs.

Dr. Varney returned to Marshall University in 2019 to accept her current role as a tenure-track Assistant Professor in the School of Pharmacy. She coordinates and teaches in a pathophysiology and basic pharmacology course called Principles of Disease and Drug Action. In addition to teaching foundational basic sciences content to PharmD students, Dr. Varney serves as a Faculty Senator and Academic Planning Committee member for Marshall University and serves on the Curriculum Committee for the university's School of Pharmacy. Dr. Varney serves as faculty co-chair for Marshall University's student chapter of the Association of American Pharmaceutical Scientists and will begin serving as the faculty advisor for the university's Pre-pharmacy Club in Spring 2021.

Dr. Varney's current research program broadly centers on hematopoietic stem cell biology with projects pertaining to 1) identifying and validating novel targets for therapeutics to treat hematologic malignancies and 2) informing the design of future vaccine formulations. Dr. Varney received a WV-INBRE Cancer Biology Grant (2019-2020) for a project entitled "Genetic- and obesity-induced chronic inflammation in hematologic malignancies." It has provided the opportunity for an undergraduate and PharmD student to work in her laboratory. Dr. Varney looks forward to continued involvement with the WV-INBRE program and hopes to provide mentorship to future WV-INBRE summer interns. She encourages those interested in the program to reach out to her with any questions they may have about her experiences or about opportunities to join her laboratory for summer research. When asked about her internship, Dr. Varney states: "Those early experiences in the WV-INBRE program helped immensely to shape my career path. I will always be grateful for them."